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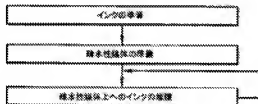
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(54) INK COMPOSITION AND METHOD OF INK-JET PRINTING ON HYDROPHOBIC MEDIUM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an ink for ink-jet printing on a hydrophobic medium by a short drying time, and to provide a method of ink-jet printing.

SOLUTION: The ink and fixer compositions are used for printing on the hydrophobic medium. The ink composition includes a water-soluble dye and a vehicle. The vehicle includes water, a glycol ether, a humectant and a nonionic surfactant. The method of printing on the hydrophobic medium includes the steps of providing the ink composition that includes the water-soluble dye and the vehicle including the water, the glycol ether, the humectant and the nonionic surfactant, and providing the fixer that includes a binder and a vehicle comprising water, a glycol ether, a humectant and a nonionic surfactant. The method of printing may further include a step for applying heat to the hydrophobic medium during and/or after the ink deposition. The method of printing may yet further include steps of providing a fixer composition and depositing the fixer composition on the hydrophobic medium before or after, or both before and after the ink is deposited.



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CLAIMS

[Claim(s)]

[Claim 1]An ink composition containing water soluble dye and a vehicle containing water, glycol ether, a wetting agent, and a nonionic surface active agent.

[Claim 2]The ink composition according to claim 1 chosen from a group to which said glycol ether changes from ethylene glycol butyl ether, propylene glycol propyl ether, ethylene glycol ethyl ether acetate, and propylene-glycol-methyl-ether acetate.

[Claim 3]Said wetting agent 2-pyrrolidone, N-methyl-Pirro ****- 2-one, 1,3-dimethyl- imidazolidine 2-one, an octyl-pyrrolidone, Ethylene glycol, a diethylene glycol, triethylene glycol, The ink composition according to claim 1 or 2 chosen from a group which comprises tetraethylene glycol, propylene glycol, a polyethylene glycol, a polypropylene glycol, butanediol, pentanediol, hexandiol, and glycerin.

[Claim 4]Said nonionic surface active agent Alkyl polyethylene oxide, alkylphenyl polyethylene oxide, Hydroxylation acetylene polyethylene oxide, alkoxy-ized polyethylene oxide, The ink composition according to any one of claims 1 to 3 chosen from a group which comprises polyethylene oxide ester, polyethylene oxide amine, polyethylene oxide amide, a polyethylene oxide polypropylene oxide copolymer, and organic silicone surfactant.

[Claim 5]Concentration of said glycol ether is about 5 to about 15 % of the weight, and concentration of said wetting agent is about 5 to about 15 % of the weight, The ink composition according to any one of claims 1 to 4 whose concentration of said water soluble dye concentration of said nonionic surface active agent is about 0.5 to about 3 % of the weight, and is about 2 to about 4 % of the weight.

[Claim 6]A fixing agent constituent comprising:

An adhesive agent.

A vehicle containing water, glycol ether, a wetting agent, and a nonionic surface active agent.

[Claim 7]The fixing agent constituent according to claim 6 chosen from a group to which said adhesive agent changes from cation polymer, anion polymer, and a salt of multicharged ion.

[Claim 8]A step which prepares ink, a step which prepares hydrophobic print media characterized by comprising the following. A printing method to a hydrophobic medium top containing a step to which thermal ** is performed by piezo-electric ink jet printing, and which makes said ink deposit on said hydrophobic print media, and a step which applies heat to said hydrophobic print media.

Water soluble dye.

A vehicle containing water, glycol ether, a wetting agent, and a nonionic surface active agent.

[Claim 9]Including a base in which said hydrophobic print media has the surface covered with hydrophobic polymer material, said base consists of cellulose materials and and said polymeric material, A method according to claim 8 chosen from a group which comprises styrene butadiene polymer, acrylic polymer, and acetic acid vinyl polymer.

[Claim 10] A step and an adhesive agent which prepare ink containing water soluble dye and a vehicle containing water, glycol ether, a wetting agent, and a nonionic surface active agent, A step which prepares a fixing agent containing a vehicle containing water, glycol ether, a wetting agent, and a nonionic surface active agent, A printing method to a hydrophobic medium top containing a step which prepares hydrophobic print media, a step which makes said ink deposit on said hydrophobic print media, and a step which makes said fixing agent deposit on said hydrophobic print media.

[Translation done.]